REMARKS

This application has been carefully reviewed in light of the Office Action dated May 7, 2004. Claims 18, 20 to 22, 25 to 28, 30, 31, 41, 42, 45, 47, 51 and 52 remain pending in the application, with Claims 1 to 6, 10 to 14, 16, 17, 19, 32 to 34, 37, 38, 40, 48 to 50 and 53 having been cancelled herein. Claims 18, 30, 41 and 47 are the independent claims herein. Reconsideration and further examination are respectfully requested.

Claims 1 to 4, 16, 18 to 20, 30, 32 to 34, 40 to 42, 47, 48 and 53 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,623,485 (Bi), and Claims 5, 6, 10 to 14, 17, 21, 22, 25 to 28, 31, 37, 38, 45 and 49 to 52 were rejected under 35 U.S.C. § 103(a) over Bi. Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention concerns receiving and processing signals in, for example, a mobile communications network. According to one aspect of the invention, first and second channel estimation is performed by respectively means, where each means uses a different estimation method. Signals output by each estimation means are combined by respective combining means. Errors of outputs of each of the respective first and second combining means are detected and decoded, with one of the outputs of the first and second combining means being selected based on the errors. As a result, the method which results in the least signal error is selected as the signal to be output by, for example, a reception apparatus.

With specific reference to the claims, amended independent Claim 18 is a reception apparatus comprising first channel estimation means for performing channel estimation by using a first estimation method, second channel estimation means for performing channel estimation by using a second estimation method different from the first

estimation method, first combining means for combining signals in accordance with a first output from the first channel estimation means, second combining means for combining signals in accordance with a second output from the second channel estimation means, detection means for detecting errors of outputs from the first and the second combining means, wherein the detection means comprises decoding means for decoding the outputs from the first and the second combining means, and selection means for selecting one of the first and the second combining means on the basis of errors of outputs from the decoding means.

Amended independent Claim 41 is a method claim substantially corresponding to Claim 18.

Amended independent Claim 30 includes features along the lines of Claim 18, but is more specifically directed to a reception apparatus comprising first channel estimation means for performing channel estimation by using a first estimation method, second channel estimation means for performing channel estimation by using a second estimation method different from the first estimation method, first combining means for combining signals in accordance with a first output from the first channel estimation means, second combining means for combining signals in accordance with a second output from the second channel estimation means, detection means for detecting errors of output from the first and the second combining means, wherein the detection means comprises decision means for performing symbol decision with respect to the outputs from the first and the second combining means, and selection means for selecting one of the first and the second combining means in accordance with errors based on the decision made by the decision means.

Amended independent Claim 47 is a method claim that substantially corresponds to Claim 30.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of the present invention. More particularly, the applied art is not seen to disclose or to suggest at least the feature of performing a first channel estimation by using a first estimation method, performing a second channel estimation by using a second estimation method different from the first estimation method, combining signals in accordance with a first output from the first channel estimation, combining signals in accordance with a second output from the second channel estimation, detecting errors of outputs from the first and the second combining, and selecting one of the first and the second combining means/steps on the basis of the errors.

Bi is merely seen to disclose a power estimator 305 that generates a power signal H_1 and corresponding complement signal $-H_1$ form a digital signal d_1, and a power estimator 310 that generates a power signal H_2 and a corresponding complement signal $-H_2$ from a digital signal d_2. A selection circuit 347 selects one of signals v_1 and v_2 generated by decoders 340 and 342, which respectively input signals $u_1(=d_1H_1)$ and $u_2(-d_1(-H_1))$. A selection circuit 348 selects one of signals v_3 and v_4 generated by decoders 344 and 346, which respectively input signals $u_3(=d_2H_2)$ and $u_4(=d_2(-H_2))$. Thus, although the signals H_1 and $-H_1$ of the power estimator 305 are input to the selection circuit 347 via the decoders 340 and 342, the signals H_2 and $-H_2$ of the power estimator 310 are not input to the selection circuit 347. Thus, Bi merely discloses selecting one of decoders 340 and 3342 corresponding to two outputs of the power estimator 305. However, Bi is not seen to disclose or to suggest selecting either a decoder corresponding to an output of the power estimator 305 or a decoder corresponding to an output of the power estimator 310.

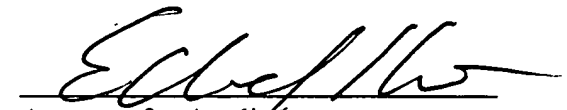
Accordingly, Bi is not seen to disclose or to suggest at least the feature of performing a first channel estimation by using a first estimation method, performing a second channel estimation by using a second estimation method different from the first estimation method, combining signals in accordance with a first output from the first channel estimation, combining signals in accordance with a second output from the second channel estimation, detecting errors of outputs from the first and the second combining, and selecting one of the first and the second combining means/steps on the basis of the errors.

In view of the foregoing amendments and remarks, all of the pending claims are believed to be allowable over Bi.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,



Attorney for Applicant
Edward A. Kmett
Registration No. 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200

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